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HANDBOOK ON SANITATION OF AIRLINES. STANDARDS OF SANITATION FOR THE CONSTRUCTION AND OPERATION OF COMMERICAL PASSENGER AIRCRAFT AND SERVICING AND CATERING FACILITIES

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HANDBOOK ON SANITATION OF

AIRLINES

STANDARDS OF SANITATION
FOR THE CONSTRUCTION AND
OPERATION OF COMMERCIAL
PASSENGER AIRCRAFT AND
SERVICING AND CATERING
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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service - Division of Sanitation

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FOREWORD

The airline industry has grown so large in recent years that an obvious need now exists to set forth, in published form, principles of sanitation (or sanitation standards) which all airlines can follow in order to prevent the spread of preventable, communicable diseases across State lines.

It is recognized generally that sound sanitation practices are an important factor in good service, and furthermore, that healthful, safe, and enjoyable travel is a product of good service and the proper installation and use of equipment. As a matter of practicality, it is better to "build in" facilities which will permit the practice of sound sanitation principles than to make costly changes later.

Food may be harmful to the consumer unless it is clean, wholesome, free from spoilage, and properly prepared and served. Sanitation at catering points and aboard aircraft, as in other eating places, is of considerable public-health importance. Numerous outbreaks of food-borne disease have occurred, many of which could have been prevented by maintenance of recognized standards of sanitation. Water which comes from unsafe sources, or which is improperly handled, can cause serious disease outbreaks. Also important to the airline industry is the sanitary disposal of various kinds of waste matter.

This publication is intended *as a guide* to designers, builders, and operators of aircraft, airline servicing equipment, and facilities. It is intended, also, for use by health-department representatives and others who make periodic investigations or inspections of such facilities and operations.

The principles of sanitation pertaining to the preparation, handling, and storage of food (in the section on Catering-Point Sanitation) are adapted from the *Ordinance and Code Regulating Eating and Drinking Establishments, 1943 Recommendations of the Public Health Service* (PHS Publication No. 37).

Public Law 410, Seventy-eighth Congress, authorizes the Public Health Service to prepare regulations for the prevention of the transmission or spread of communicable disease. Section 361 (a) of that law reads as follows:

> The Surgeon General, with the approval of the Administrator,[1] is authorized to make and enforce such regulations as in his judgment are

[1] On April 11, 1953, the Federal Security Agency was redesignated the Department of Health, Education, and Welfare, and the Federal Security Administrator became the Secretary of Health, Education, and Welfare.

> necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession. For purposes of carrying out and enforcing such regulations, the Surgeon General may provide for such inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated as to be sources of dangerous infection to human beings, and other measures, as in his judgment may be necessary.

While the standards which appear on the following pages do not have the legal force of Public Health Service regulations, they were written specifically to conform to the intent of applicable regulations. Compliance with these standards, therefore, will insure compliance with the regulations. In the event of noncompliance with a standard and failure to correct the insanitary condition, final corrective action will be based upon the applicability of the regulations concerned.

Insofar as airline sanitation is concerned, this publication supersedes the *Sanitation Manual for Land and Air Conveyances Operating in Interstate Traffic* (Reprint No. 2444 of *Public Health Reports*, January 29, 1943).

These principles are intended to apply primarily to future design and construction, as well as to major alterations to existing facilities. However, where a serious hazard to health occurs in existing facilities, it will be necessary to comply with these standards in order to eliminate it.

This handbook was prepared by the Interstate Carrier Branch of the Division of Sanitation, Public Health Service, in collaboration with airline and catering representatives of The Joint Committee on Airline Sanitation of the Air Transport Association of America. The manuscript has been reviewed, also, by representatives of airlines not associated with the A. T. A. The Public Health Service expresses appreciation for the valuable contribution of the airline industry, which resulted in a more practical handbook than might otherwise have been possible.

Undoubtedly, improved methods and equipment will be developed from time to time. These, in turn, will lead to changes in existing requirements for sanitary practices and procedures. Such developments will be included in supplements to or revisions of this handbook, as circumstances may require.

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Loading tray-carrier from conveyor belt in packing room.

sanitation status of all sources reported in use by carriers. At the request of a carrier, unlisted sources will be investigated for inclusion in these lists.

All milk and fluid milk products should be served in the containers of individual-service size in which they were received from the distributor. (This provision does not apply to cream used for coffee or cereals; such cream may be supplied in creamers filled by proper methods in the catering establishment.)

In some instances, precooked frozen food is reheated aboard an aircraft for in-flight service. Thawing and refreezing of precooked frozen food is undesirable. A suitable indicator may be placed in the packaged frozen food to indicate whether the food has been temporarily thawed.

All raw or frozen oysters, clams, and mussels purchased for consumption on aircraft should originate from a dealer currently listed by the Public

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CONSTRUCTION PLANS

The Public Health Service should be consulted for information as to requirements for conformance with the regulations and policies governing plan review. This applies both to new construction and major improvements, in which items of public-health significance are involved, at airport terminals as well as on aircraft. This procedure will prevent costly changes after construction.

Where approval by a State or local health department is required, the Public Health Service can make the necessary arrangements for the submittal of the plans for approval.

The types of plans and specifications of public-health significance, which should be submitted to the Public Health Service for review prior to construction, include the following:

1. Terminal Facilities.—(a) Water-distribution systems at facility (and, when no previous public-health approval has been given, the source and treatment of the water supply).

(b) Sewerage systems at facility (and, when no previous public-health approval has been given, the systems for collection, treatment, and disposal of the sewage).

(c) Catering-point facilities, including layout, plumbing, and significant equipment.

(d) Plane-servicing equipment, such as water carts, waste carts, and food-carrying equipment.

(e) Garbage and other waste-disposal systems, including facilities for cleaning cans or containers.

(f) Toilets and lavatories for employees.

2. Aircraft Facilities.—(a) Water tanks and distribution systems.

(b) Buffet area, buffets, and equipment.

(c) Toilets and lavatories, including waste-retention tanks.

CATERING-POINT SANITATION

The following sanitation requirements apply to the construction, maintenance, and operation of a catering establishment:

1. Floors.—The floors of all rooms in which food or drink is stored or prepared should be easily cleaned, smooth, and maintained in good repair. Floors may be of concrete, terrazzo, tile, tight wood, or wood covered with linoleum. Wooden floors containing cracks, holes, or broken or poorly fitting planks, or which otherwise fail to be tight, are not satisfactory. Where floor drains are used, the floor should be graded to drain, and the drain should be provided with proper traps and should be so constructed as to minimize clogging.

All floors should be kept clean and free from litter. Dustless methods of floor-cleaning, or dust-arresting sweeping compounds and push-brooms, should be used. All floor-cleaning, except in emergencies, should be done during periods when the least amount of food and drink is exposed.

2. Walls and Ceilings.—The walls and ceilings of all rooms in which food or drink is prepared or stored should be painted or finished in light color. The walls of all kitchens and sculleries should have a smooth, washable surface up to the level reached by splash or spray. All walls and ceilings of rooms in which food or drink is stored or prepared should be kept clean and in good repair.

3. Doors and Windows.—During the seasons of the year when flies are prevalent, the entrance of flies into food-storage or food-preparation rooms should be prevented by the use of screens of not less than 16-mesh wire or plastic cloth. All doors should be self-closing, and should open outward from food-preparation and food-storage rooms. (Properly installed fly-repellent fans of sufficient power to prevent the entrance of flies may be used in lieu of screens. During seasons when flies are absent, no screening provisions need be made.)

4. Lighting.—There should be at least 10 foot-candles of light on all working surfaces in rooms in which food or drink is prepared or in which utensils are stored. In food-storage rooms, approximately 4 foot-candles should be provided. Fixtures should be kept clean and in good repair.

5. Ventilation.—All rooms, except those used for cold storage, should be so ventilated as to be reasonably free of disagreeable odors and condensation. Ventilation equipment, such as exhaust fans or stovehoods, should be provided when necessary to supplement windows and doors.

6. Toilet Facilities.—Adequate toilet facilities should be provided conveniently located for food-service personnel. There should be an intervening room, or vestibule, between a toilet room and any room in which food or drink is prepared or stored, or in which utensils are handled or stored. The intervening room should have tight-fitting doors equipped with springs or checks to make them self-closing. The toilet room should be well lighted, and ventilated to the outside air. The toilet room and fixtures should be maintained in a clean, sanitary condition and in good repair, and should be kept free of flies and other vermin. Durable, legible signs, directing employees to wash their hands before returning to work, should be posted conspicuously in each toilet room.

Body discharges may contain disease organisms which could be deposited in the food or on utensils, either by the hands of personnel or by flies which have been in contact with body wastes. The provisions set forth in this section are intended to preclude the spread of disease from this source to the greatest possible extent.

7. Water Supply.—A water supply which meets Public Health Service standards should be utilized by the establishment. The water, under pressure, should be readily accessible to all rooms in which food is prepared or in which utensils are washed. An adequate supply of water should be available for the proper cleaning of floors, equipment, and utensils.

All plumbing should be so designed and installed as to prevent contamination of the water supply through cross-connections and back-siphonage from fixtures, including garbage-grinders, dishwashing machines and sinks.

8. Handwashing Facilities.—To facilitate the personal cleanliness of food-service employees, adequate handwashing facilities should be convenient to all toilet rooms. Hot and cold running water should be available, and adequate supplies of soap and individual towels should be provided. A warm-air jet, in lieu of towels, will be considered satisfactory, provided that such equipment is properly installed, and is so operated as to assure prompt and adequate drying of hands. No employee should begin work, or resume work after visiting the toilet or engaging in any activity which might have contaminated his hands, without having washed them. Vats for washing utensils should not be used as washing facilities for personnel. Where toilet rooms are not convenient for routine handwashing, handwashing facilities should be provided in or adjacent to food-handling areas. Handwashing facilities should be kept clean and in good repair.

9. Construction of Equipment and Utensils.—Materials used in the construction of equipment should withstand all methods of bactericidal treatment to which they may be subjected. All surfaces of multiuse utensils with which food or drink comes into contact should consist of smooth, nontoxic material which is not readily corrodible. Such utensils should be kept in good repair and free of breaks, corrosion, open seams, cracks, and chipped places.

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Food-contact surfaces should be easily accessible for cleaning, and should be self-draining. Beverage containers used on aircraft for dispensing drinking water or beverages should be designed for easy cleaning, and should be maintained in a sanitary condition. The interiors of such containers should be smooth, with all joints tight. Valves and vents for these containers should be so constructed as to be easily cleaned. No utensils containing, or plated with, cadmium or lead should be used; however, solder containing lead may be used.

Shelves, tables, refrigeration equipment, stoves, hoods, mixers, meat-grinders, and similar equipment should be so constructed as to be easily cleaned, and should be maintained in good repair.

10. Cleaning and Bactericidal Treatment of Equipment and Utensils.—(a) Cleaning of Equipment and Utensils.—All portable food-transportation equipment, shelves, tables, cutting boards, meat blocks, refrigerators, stoves, hoods, tray racks, sinks, dishwashing machines, and similar equipment, should be kept clean and free from dust, dirt, and other contaminating material. Cloths used by chefs and other employees in the cleaning of equipment and multiuse utensils should be clean. Because they tend to become soiled quickly, cutting boards, meat blocks, and other equipment with which food comes into frequent contact, should be given special attention in cleaning operations.

All multiservice eating and drinking utensils should be thoroughly cleaned in warm water after each use. Water at a temperature of 110° F. to 120° F. is best suited for the washing of utensils by hand. Multiuse utensils used in the preparation of food and drink should be thoroughly cleaned immediately after each use, and should be clean to sight and touch. A sufficient amount of detergent should be used.

Food-contact surfaces of beverage containers should be thoroughly cleaned after each usage. Vent tubes and multiservice spigots of beverage containers require special attention to achieve proper cleanliness.

Careful scrapping or prerinsing of utensils, to remove gross food particles before washing, is recommended in order to keep the washwater clean longer, and to maintain an effective concentration of detergent. Because of the long interval of time between use and washing of utensils, those with dried food remnants thereon should be presoaked in a sink especially provided for that purpose. The washwater should be changed frequently enough to keep it reasonably clean.

No article, polish, or other substance containing any cyanide preparation or other poisonous or toxic material should be used for cleaning or polishing utensils. Because of the danger of particles of metal lodging in food, steel wool should not be used to clean food utensils or beverage containers.

Single-service articles, such as paper cups, plates, and straws, should never be used more than once.

(b) Manual Bactericidal Treatment.—After a thorough washing, eating and drinking utensils, beverage containers, and other multiuse utensils should

be subjected to effective bactericidal treatment. One or more of the following methods should be used:

Method A: Immerse utensils or containers in clean water, for at least 2 minutes, at a temperature of at least 170° F., or for at least 30 seconds at 212° F.

When the handwashing method is used, hot-water sanitization of utensils can best be accomplished in a 3-vat sink, using long-handled, wire baskets. The first vat should be used for washing the utensils, the second for rinsing

Many brushes are necessary to clean spigots properly.

them, and the third for bactericidal treatment. (Where only a 2-compartment sink is available, the intermediary rinsing step may be eliminated.) The utensils should be placed in the wire baskets after the washing, and immersed in clear, hot water in the third vat for the length of time stipulated in the preceding paragraph. Cups, bowls, and glasses should be placed in the wire baskets with care, to prevent the formation of air pockets and to permit water to drain off readily. After removal from the hot water, utensils preferably should be left in the baskets until dry. (Heat remaining in the utensils will dry them rapidly without the necessity of toweling. However, when drying cloths are used, they should be clean, and should be used for no other purpose.)

Water in the bactericidal-treatment vat should be maintained at a temperature of at least 170° F. for the entire dishwashing period.

To shorten the time needed to raise the temperature of the water in the bactericidal vat, both initially and after subsequent replacements of water,

particularly where large numbers of utensils are being treated, it is desirable that the water be delivered to the vat at a temperature of at least 170° F. Since general-purpose water is usually not heated to a temperature greater than 140° F., a separate heating unit (booster heater) may be installed to assure the delivery to the vat of water at 170° F. or above. The booster heater should be thermostatically controlled.

Satisfactory devices for maintaining the water temperature include: (1) a steam- or electrically-heated jacket under or around the vat; (2) steam coils inside the vat, provided that they are removable, or can be rotated to a vertical position, or are so installed as to be readily accessible

Washing and bactericidal treatment in a 3-compartment sink.

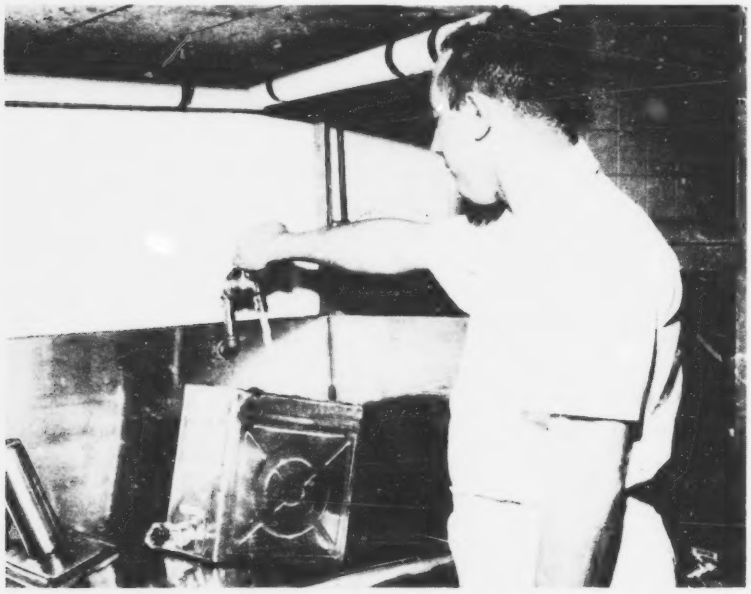
for cleaning; (3) an easily cleanable, immersion-type, electrical unit inside the vat; (4) one or more steam ejectors discharging near the bottom of the vat, so installed that the steam and the water are thoroughly mixed; (5) a steam- or electrically-heated recirculation unit, attached directly to the bactericidal vat; and (6) a gas burner or electric hot-plate under the vat.

Where hot water is used as the bactericidal agent, an indicating thermometer should be provided to measure the temperature of the water in the treatment compartment. Thermometers which are accurate to within 2° F., and on which the scale divisions are not greater than 2° F., should be provided in an easily visible location.

Method B: Immerse utensils or equipment for at least 2 minutes in a

lukewarm chlorine bath containing at least 50 parts per million (p. p. m.) of available chlorine. (Other chemicals will be considered on their merits.)

When using this method of bactericidal treatment, a 3-vat unit is necessary. One vat is used for washing, the second for rinsing, and the third for chlorine-solution immersion. Because the strength of chlorine is depleted rapidly by organic matter (food particles and grease), and by the detergent that may be carried over from the wash vat, an effective rinse is necessary after washing and before immersion in a chlorine solution. In order to maintain the recommended strength of 50 p. p. m. of available



Elevated tap for filling containers with drinking water.

chlorine during the washing operation, the bath should be made up initially to a strength of 100 p. p. m. and should not be used after its strength has diminished to 50 p. p. m.[1] Long-handled, wire baskets are not required (but are recommended) for the chlorine method of bactericidal treatment.

Method C: Equipment that is too large for immersion may be treated: (1) with live steam from a hose, when the steam can be confined in the

[1] Pages 30 and 31 of *Ordinance and Code Regulating Eating and Drinking Establishments, 1943 Recommendations of the Public Health Service* (PHS Publication No. 37) contain information on testing outfits and the procedure for determining strength of chlorine solution.

equipment; (2) by a boiling-water rinse; or (3) by spraying or swabbing with a solution containing at least 100 p. p. m. of chlorine.

Method D: Any other method which is approved by the Public Health Service.

(c) Dishwashing Machines.—Dishwashing machines should be so designed, installed, operated, and maintained that the utensils are rendered free of visible soil, washwater, and detergent, leaving them clean, reasonably dry, and free of microorganisms which present a potential health hazard.

Because of the relatively long interval of time which commonly elapses between the service of food on the aircraft and the washing operation, the utensils should be effectively scrapped and preflushed (optimum temperature range 110°–140° F.) or, if necessary, presoaked in a sink especially provided for that purpose, to facilitate removal of dried food particles prior to the washing operations in the machine.

The effectiveness of a spray-type dishwashing machine is contingent upon several factors. Some of these are inherent in its design and fabrication, while others depend upon the provision of satisfactory appurtenant equipment and proper operation and maintenance. These factors include, among others, the temperature and volume of the applied wash- and rinse-waters, the type and concentration of detergent used, the cleanliness and maintenance of the machine (which, in turn, are related to its durability and ease of cleaning), the duration of wash and rinse periods, the spray pattern, and the nozzle sizes and operating pressures.

In view of the above, the dishwashing machine should be designed and fabricated of durable materials, so that it will withstand corrosion and be easily cleanable. Also, it should have inherent design features (such as duration of wash and rinse sprays, spray pattern, quantity, pressures, and control devices) which will assure a satisfactory dishwashing operation under proper installation, operation, and maintenance. This requires:

(1) Provision for maintaining the washwater in the machine at a temperature in the range 140°–160° F. Detergent should be added in accordance with the directions of the manufacturer. (A common and recommended dosage is 1 pound per 50 gallons of fresh washwater.) The detergent concentration should be maintained, preferably by an automatic dispenser or, alternately, by a definite system of manual feeding, such as spreading a level tablespoonful of detergent over each rack of utensils.

(2) Provision of an adequate water supply for the dishwashing operation, with a dependable pressure-regulating device (flow-control or pressure-reducing valve) if required, to maintain 15 to 30 pounds of flow pressure on the final rinse line at the machine, and not less than 10 pounds per square inch at the rinse nozzles.

(3) Provision of adequate water-heating facilities, with dependable thermostatic control, to maintain a temperature of 180° F. or more in

Soaking and prewashing to remove dried food particles.

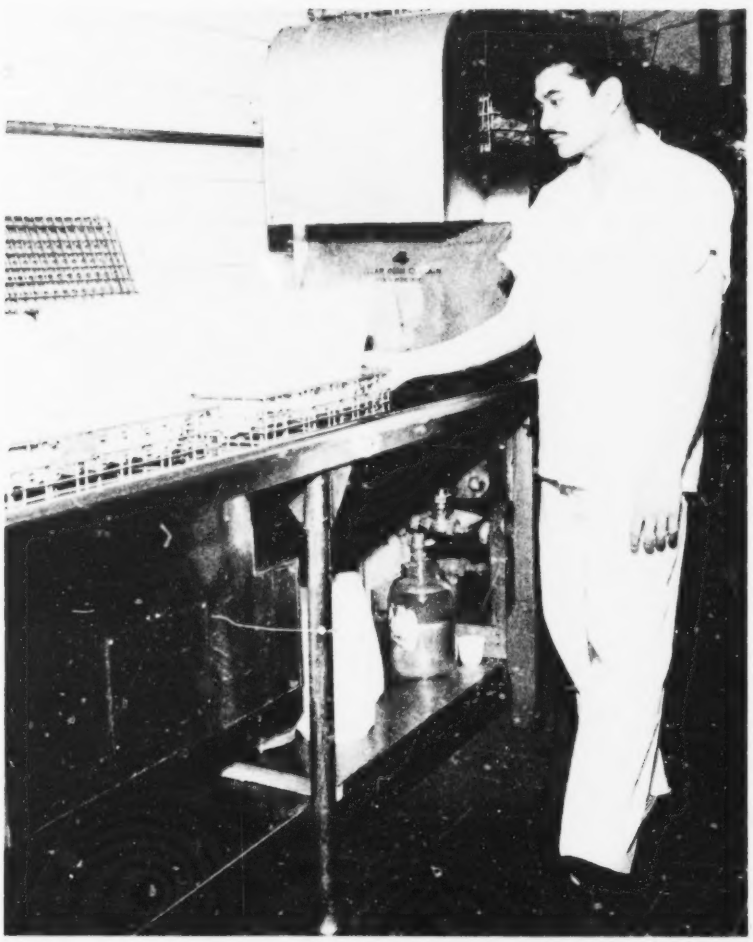
the final fresh-water rinse line at the entrance of the rinse manifold on the machine.

(4) Provision of an easily readable thermometer on the final and recirculated rinse-water lines near the entrance to the spray arm or manifold. The installation of suitable indicating thermometers on all tanks of dishwashing machines is desirable to facilitate correct operation.

(5) Provision of sufficient racks and clean-utensil storage area to permit air-drying (usually about 45 seconds) before removal of utensils from racks following washing.

(6) The dishwashing equipment should be thoroughly cleaned and serviced at the end of each washing period. This should include cleaning of utensil-storage tables; cleaning of wash arms (by removing end caps when arms themselves are not removable); inspection and cleaning, if necessary, of final rinse sprays; removal and cleaning of scrap trays; draining, cleaning, and flushing of tanks and pumps; removal and cleaning of curtains; reassembly and check of machine for next operation; and cleaning and filling of detergent dispenser, if used.

Periodic checks of dishwashing machines should be made at appropriate intervals by competent personnel representing the manufacturer.



Clean trays emerging from dishwashing machine.

NOTE: More detailed specifications for the various types of dishwashing machines may be found in Standard No. 3, *Spray-Type Dishwashing Machines*, adopted by the Joint Committee on Food Equipment Standards and published by the National Sanitation Foundation, Ann Arbor, Michigan (May 1953). Equipment manufactured in conformity with Standard No. 3 will be considered as complying with the sanitary design and construction standards of this manual.

11. Storage and Handling of Equipment and Utensils. All containers and utensils should be stored, inverted or covered when practicable, at least 8 inches above the floor in a clean, dry place, to protect them from

splash, dust, overhead leakage, condensation, and other contamination. The area under such storage facilities should be readily accessible for cleaning and observation. Multiservice spigots, after cleaning and bactericidal treatment, should be handled in such a manner as to avoid contamination. They should be reassembled, replaced on the container, and provided with a protective covering which should be securely fastened. After cleaning and bactericidal treatment, beverage containers should be inverted on racks which are so constructed as to permit air-drying of the containers.

Surfaces of containers and utensils which come into contact with food or drink should not be touched by hand. Fingers should not touch the inside surfaces of glasses, cups, or dishes, nor the bowls of spoons, tines of forks, or blades of knives, nor the inside of beverage containers. Any equipment so handled should be subjected to bactericidal treatment before use.

The use of clean, removable towels in storage drawers, in cabinets, or on shelves, is considered satisfactory. Nonremovable felt, or any other type of fixed, porous lining, is not acceptable.

Paper cups, plates, straws, spoons, forks, and other single-service containers or utensils, should be purchased in new, clean cartons, and should remain therein, in a clean, dry place, until used. After removal from the cartons, these articles should be handled with care to avoid contamination.

The use of individually wrapped portions of frozen desserts is desirable, and eliminates the need for special facilities for storing frozen-dessert dispensers. When frozen desserts must be served from bulk containers, a dipper well or equally acceptable equipment for storing dispensers should be provided. Dispensers should be kept either in running water or in water maintained at or above 170° F. Where this is not feasible, they should be cleaned, given bactericidal treatment after each use, and stored in a clean, dry, protected place.

Drain racks, trays, and shelves should be made of material which is not readily corrodible, and should be kept clean.

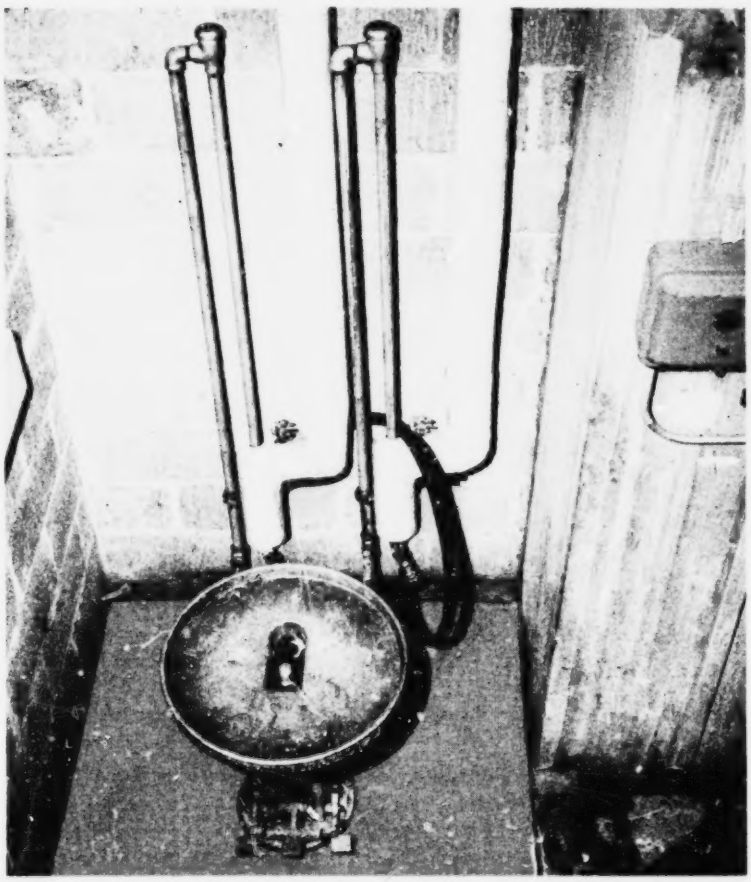
12. Disposal of Wastes.—Adequate facilities should be available for the temporary storage of refuse from aircraft and from the kitchen facilities. Sanitary management of refuse is necessary for proper control of rodents and other vermin.

It is recognized that adequacy of disposal facilities will vary at different terminals, and will depend to some extent on local practices. Refuse (garbage, waste paper, and rubbish) should be stored in covered, durable, watertight, ratproof containers pending collection or disposal, and should be removed from the premises frequently to prevent nuisance and unsightliness. Garbage can be disposed of by garbage-grinders, where local authorities permit their use.

Garbage-storage areas outside of the kitchen should be adequately drained, constructed of impervious material, and kept clean. Garbage cans should be thoroughly cleaned each time they are emptied. Facilities similar to those described for can cleaning (see p. 12) should be pro-

vided for washing garbage cans, but facilities for soil-can cleaning should not be used for cleaning garbage cans. (Refuse-disposal methods are discussed in the section entitled Miscellaneous, p. 31.)

All liquid wastes resulting from the cleaning and rinsing of utensils and floors, from flush toilets, and from lavatories, should be disposed of in a



Facilities for washing garbage cans. (Note location of vacuum breakers on supply lines.)

public sewer where one is available, or by any other method approved by a competent health authority. Drains and overflows from food and drink equipment (ice machines, dishwashing equipment, potato peelers, steam tables, ice cream dipper wells, refrigerators) ordinarily should not be connected directly to a sewer.

13. Refrigeration.—All readily perishable food or drink should be kept at or below 50° F., or above 140° F., except when the meals are being prepared and placed on the trays. (Custard-filled and cream-filled pastries, milk and milk products, egg products, meat, fish, fowl, shellfish, gravy, and poultry stuffing, and sauces, dressings, and salads containing meat, fish, fowl, eggs, milk, or milk products, are examples of readily perishable foods. Most of these foods are excellent media for the growth of bacteria. When such foods are contaminated with disease organisms, the bacteria multiply rapidly at temperatures between 50° F. and 140° F. Proper refrigeration greatly retards the multiplication of bacteria.)

All ice which comes into contact with food or drink should be obtained from sources approved by competent health authorities. Adequate facilities should be provided for washing all ice, except that which is delivered in single-service containers or produced in a satisfactory ice-making machine on the premises.

Refrigerators for storing readily perishable food or drink should be so constructed as to maintain a temperature of 50° F. or less at all times. They should be provided with thermometers which indicate the temperature in the warmest zone, and which are so located as to be read without difficulty. (Freezing cabinets and walk-in freezers are excluded from this standard.) Thermometers which are accurate to within 2° F., and on which the scale divisions are not greater than 2° F., should be provided.

Perishable foods which have been packed for outbound flights should be maintained at or below 50° F., or above 140° F., unless intended for service within 2 hours after such packing. (Prior contamination of perishable foods, together with an extended incubation period at ideal-growth temperatures, may result in food poisoning among the consumers.)

14. Wholesomeness of Food and Drink.—All food and drink should be clean, wholesome, free from spoilage, and so prepared as to be safe for human consumption. (The term *food and drink* includes condiments, dressings, and sauces, in addition to other edibles.)

The use of cream-filled and custard-filled pastries should be avoided as much as possible. If they are used, special care should be taken to avoid contamination of the cream or custard filling during preparation. Every effort should be made to maintain such pastries at a temperature below 50° F. until served.

Raw pork may contain trichinae, the organisms which cause trichinosis in man. For this reason, pork or pork products which have not otherwise been treated to destroy these organisms must be cooked thoroughly. Heating of all portions of the pork to a temperature of 137° F. will provide adequate treatment.

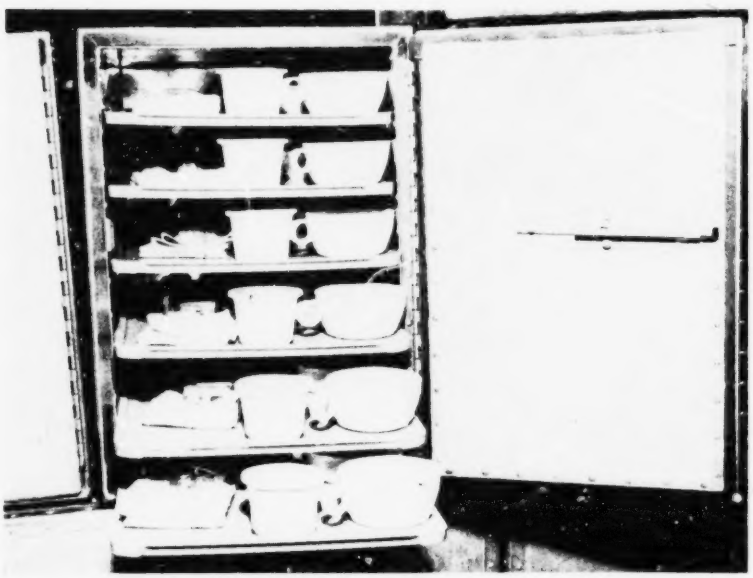
All milk, fluid milk products, and frozen desserts should come from sources approved by the Public Health Service. Lists are published periodically by the Public Health Service, citing official classifications of the

Health Service as holding an unexpired and unrevoked certificate issued by a State control agency. Lists of such dealers are published periodically by the Public Health Service, and are available on request.

Shucked shellfish should be purchased in the containers into which they were placed at the shucking plant, and should be kept therein until prepared for serving.

Foods individually served to any person, or foods which may have been handled or partially consumed by any person, should not be served in any form to any other person.

Beverage containers may be precooled by filling with chilled, potable water, by storage in a refrigerator, or by filling with ice cubes which have



Filled tray-carrier ready for delivery to aircraft.

been manufactured in ice-making machines located on the premises, provided that the design, installation, and operation (as well as the handling of the ice) are such that the ice cannot be contaminated. Drains from such machines should not be directly connected to sewers, and the ice-storage compartment should be frequently cleaned and sterilized. Metal scoops should be used for handling ice cubes.

15. Protection of Food.—All food and drink in storage should be kept at least 8 inches above the floor, and should be protected from dust, droplet infection, overhead leakage, condensation, sewage backflow, and any other form of contamination. The area under such storage facilities should be readily accessible for cleaning and observation. Food or drink should not

be stored or prepared directly under overhead sewer or drain pipes, unless such pipes are provided with suitable means to carry off possible leakage or condensation. The catering establishment should be provided with adequate protection against contamination by flooding. Storage areas for food and drink should be so constructed as to provide protection from contamination. No live animal should be permitted to enter any room in

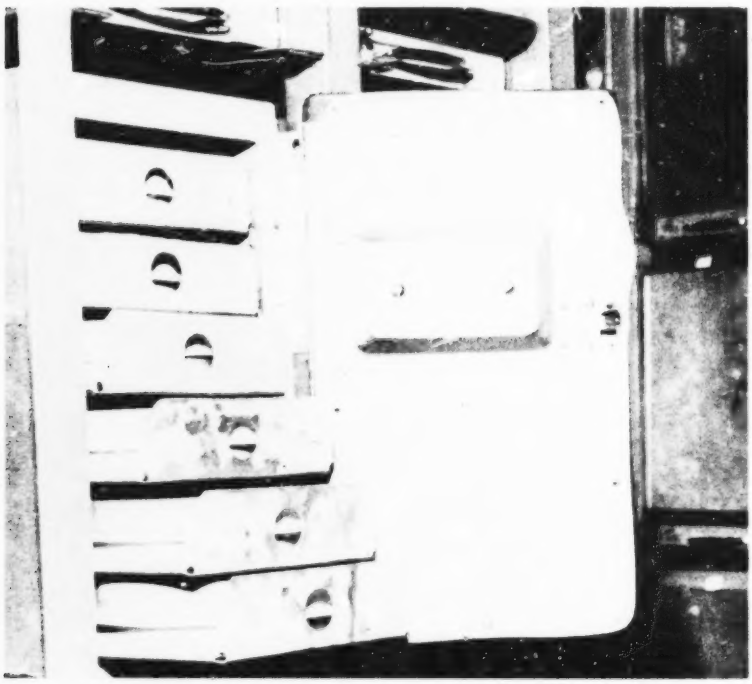
Placing hot foods in casseroles.

which food or drink is prepared. The pouring lips of nonleakproof containers of milk or other beverages should not be submerged in water for cooling.

All food and drink should be handled in such a manner as to minimize the chances of contamination. Sliced butter and cracked ice should not come into direct contact with fingers or hands; in fact, manual contact with all food should be avoided, to the fullest extent possible. Sugar

should be served only in covered dispensers, in individual containers, or as wrapped tablets. Food and drink containers should be covered whenever the contents are not being prepared or dispensed.

Buildings in which food or drink is stored or prepared should be so constructed that there will be no enclosed spaces which might provide potential harborages or breeding places for rodents. Approved ratproof materials should be used where necessary, to prevent the entrance of rodents. Operators of establishments should take every necessary means to keep the premises free from flies, roaches, and rats. Fly-repellent fans, flypaper,



Electrically heated oven keeps food hot until delivered to aircraft.

flytraps, or fly-killing sprays or powders may be used. Poisonous compounds used for the extermination of rodents or insects should be so colored as to be easily identified; in all circumstances, poisonous substances should be used with extreme caution, and, whenever possible, compounds harmless to humans should be utilized. Insecticides and rodenticides which are harmful to man should not be used when food is exposed. They should be handled only by competent personnel, who are familiar with their toxic properties and are trained in their usage. Evidence of the presence of any vermin indicates unsatisfactory or ineffective control measures.

16. Cleanliness of Employees.—The outer garments of all persons (including dishwashers) who prepare or serve food, or who handle utensils, should be kept clean and should be used only for kitchen duties. All persons who prepare or serve food and drink, or who handle utensils and equipment, should keep their hands clean during these operations.

Spitting and the use of tobacco in any form should be prohibited in areas where food is prepared or packed. Signs should be provided stating that smoking is not permitted in these areas.

17. Miscellaneous.—Soiled linen, coats, and aprons should be kept in containers provided for that purpose. Spaces where food is stored, prepared, or handled, should not be used for sleeping quarters, or for other domestic purposes. Pantries, kitchens, or other rooms in which food operations are conducted, should not be used for dressing rooms. Articles of employees' clothing should not be kept in open storage in any area where food is prepared or packed.

18. Disease Control.—Any person who is known to be, or suspected of being, a carrier of any communicable disease, or in a communicable period of such disease, should be prohibited from food-service work. The same prohibition applies to any person suffering, or suspected of suffering, from a gastrointestinal infection, or on the exposed portion of whose body appears an open lesion or any evidence of infection.

These requirements should be made familiar to all employees, and should be brought to their attention frequently, in written instructions or on a placard.

19. Transportation of Food to Aircraft.—Vehicles used for transporting food from caterers to aircraft should be kept clean, and should be provided with a protective covering whenever necessary. Such vehicles should be used for no purpose which could adversely affect the quality of the food.

AIRCRAFT SANITATION

1. Food and Beverage Service.—In-flight food service is limited, usually, to the placing of previously prepared portions of food on individual serving trays and the distribution of the trays to the passengers. In some instances, precooked frozen food is reheated aboard the aircraft for in-flight service. All operations connected with in-flight food service should be performed in such a manner as to minimize the possibility of contaminating the food.

Food-preparation surfaces, food-storage shelves, cabinets, drawers, and other food-storage surfaces aboard aircraft should be constructed of easily cleanable, noncorrodible material, and should be free of cracks, crevices, and other recesses which could make cleaning difficult. Buffet equipment should be so installed that openings to spaces between this equipment and the fuselage either are readily accessible for cleaning or are sealed to prevent insect infestation and the accumulation of dirt. All food-preparation surfaces and storage spaces for food and utensils should be kept clean and free from dust, dirt, insects, and other sources of contamination. Clean, dry, dustproof storage facilities should be provided for single-service containers and utensils.

Stewards and stewardesses should wash their hands thoroughly before beginning food-service operations, and also after every activity in which the hands may have become exposed to contamination during the period food is served. In the event that washwater is not available, a suitable germicidal solution should be used. Manual contact with food or drink should be avoided insofar as possible.

Readily perishable foods,[2] while in storage on the aircraft, either should be refrigerated at or below 50° F. or should be kept at or above 140° F. (However, foods need not meet these temperature requirements for a 2-hour period immediately prior to service.)

All multiuse eating and drinking utensils used in in-flight food or beverage service should be thoroughly cleaned and subjected to effective bactericidal treatment before being used again. (Because of space and weight limitations, water requirements, and waste retention, bactericidal treatment aboard aircraft is not advisable at this time. With cleaning and

[2] For definition of readily perishable food, see section on Catering-Point Sanitation, Item 13, Refrigeration, p. 13.

bactericidal treatment of multiuse eating and drinking utensils necessarily performed at ground installations, such utensils should be provided on the aircraft in sufficient number to obviate reuse during the period of flight.

Cleaning and bactericidal treatment should be effected in accordance with the standards set forth under Cleaning and Bactericidal Treatment of Utensils, p. 4.

2. Ice. All ice which comes into contact with food or drink should come from sources approved by health authorities, and should be kept free from contamination while in storage and when being handled. Ice should

Clean, safe, well-prepared food . . .

be delivered to the aircraft in a covered container and, unless special storage facilities are provided on the aircraft, should remain in the container until used. Ice should be handled only with a scoop or tongs, both aboard the aircraft and in the commissary. Ice containers should be cleaned and given bactericidal treatment before being reused.

3. Refuse Handling. Unconsumed food and beverages, together with the soiled utensils, may remain on the food-service trays. Soiled trays should be stored in the closed carrying cases. These food carriers may then be returned to the ground kitchen facilities by the same vehicle which transports outgoing meals to the aircraft.

Liquid and paper wastes from the galley should be removed from the aircraft and stored in covered containers. Storage of liquid wastes on the aircraft should be in watertight, nonabsorbent receptacles. Pending removal from the aircraft and disposal, soiled air-sickness containers should be properly enclosed and stored in an upright position, apart from the galley area. Air-sickness containers should be of watertight, nonabsorbent material. Personnel engaged in food or drinking-water service should wash their hands after handling used air-sickness containers.

Garbage should be removed from the aircraft only at airports where adequate facilities are available for its storage and disposal.

. . . well served in a pleasant atmosphere.

CONTROL OF DRINKING WATER

1. Water-Piping System.—The water-piping system in the servicing area should be of such a size that an adequate positive pressure can be maintained throughout the system at all times; furthermore, due regard should be given to unusual usage from any part of the system. There should be no cross-connections between the potable-water system and a system of questionable quality. No plumbing of any type should be installed which would permit backflow of contaminated water or liquids into the potable-water system. All drinking and culinary water used in connection with the operation of air conveyances in interstate traffic should come from sources approved by the Public Health Service.

2. Aircraft Water System.—All aircraft water systems which supply water for public use should provide potable water only, and should be closed from the filling inlet to the discharge outlets (except that vent openings are permitted wherever necessary, if properly protected to prevent contamination of the water supply). The water-filling inlet should be located in such a position that it will not be contaminated by waste discharges, and should be provided with a hose connection of a different size or type from the retention-tank flushing connections on the aircraft. All water-distribution pipes or tubing should be constructed of impervious, nontoxic material.

Preferably, drinking water should be obtained from a fixed system on board the aircraft. However, this does not imply that properly constructed and properly maintained beverage containers are unsatisfactory. Water coolers which are permanently installed on the aircraft should be an integral part of the water-distribution system. The water compartment of the cooler should consist of an enlarged pipe, coil, pan, or tank. The cooler should be of nontoxic, rust-resistant material, and should be so constructed as to prevent the refrigerant from coming into contact with the potable water. A dispenser for single-service drinking cups, and a receptacle for used cups, should be installed adjacent to water-cooler outlets, unless the cooler is equipped with a fountain.

Water, to be considered potable, should originate from a safe source, and should be loaded onto the plane in a manner which will not permit the water to be contaminated in handling. A direct hose connection from the supply hydrant to the aircraft is preferable. The tanks and water system should have no sanitation defects.

Water-supply systems on aircraft should be properly disinfected before being placed into service, after repairs on the systems, and whenever evidence of contamination exists.

3. Hydrants.—Hydrants (including taps and faucets) from which water for drinking or culinary purposes is supplied for use on aircraft, should be designed, located, installed, and maintained so as to assure protection of the water against contamination. Such hydrants should not be located in toilet rooms, washrooms, or other places where danger of contamination exists or may develop. Post-type hydrants are preferred, but ground-level-type hydrants are acceptable when necessary. Potable water for use on aircraft should be supplied from hydrants which are used for no purpose which could adversely affect the quality of the water.

Where hoses are used for loading potable water on aircraft, the hydrant outlet should have a type of coupling which will permit quick attachment and removal of the hose. For a hose permanently attached to the hydrant outlet, a threaded fitting will be acceptable.

Outlets to all hydrants should terminate in a downward direction or gooseneck, except that ground-level-type hydrants may discharge horizontally.

When the hydrant is of the ground-level type, or is located in a pit, precautions should be taken in the construction of the watering point to assure adequate drainage from the hydrant area and from the hydrant box. In new servicing areas, hydrants with weep holes will not be accepted.

4. Water Hose.—Hoses used to deliver potable water to air conveyances should be of satisfactory material, and should be handled properly and used for no other purpose. They should have smooth interior surfaces, should be free of cracks and checking, and should be sufficiently durable to withstand hard usage. The nozzle on the end of the hose should be so constructed as to permit a tight connection with the filling connection of the aircraft, and should be of a different size from that of any waste connections on the aircraft. All hose connections should be of the quick-coupling type, unless the hose is permanently attached to a water cart or hydrant.

Neither the nozzle nor the hydrant end should be permitted to touch the ground or any contaminating materials, such as pools of water on the ground. Guards, disks, or other devices which will protect the nozzle end of the hose from contamination, should be provided and properly maintained. Disks which are used as protective devices should be at least 6 inches in diameter, and should be located not over 8 inches from the hose end. Valves at the filling end of such a hose should not be located on the nozzle side of the disk or protective device.

The hose should be stored on special reels, or in lockers or cabinets which are used for no other purpose, unless the hose ends are protected from contamination by suitable caps when not attached to conveyances, water carts, or hydrants.

The hose should be flushed thoroughly before being used.

Filling water truck. (Note downward-directed hydrant outlet.)

5. Water Tanks and Tank Carts. — Portable water tanks which are used to transport water for drinking and culinary use on aircraft should be properly constructed, operated, and stored, and should be used for no purpose which could adversely affect the quality of the water (e. g., for garbage or sewage).

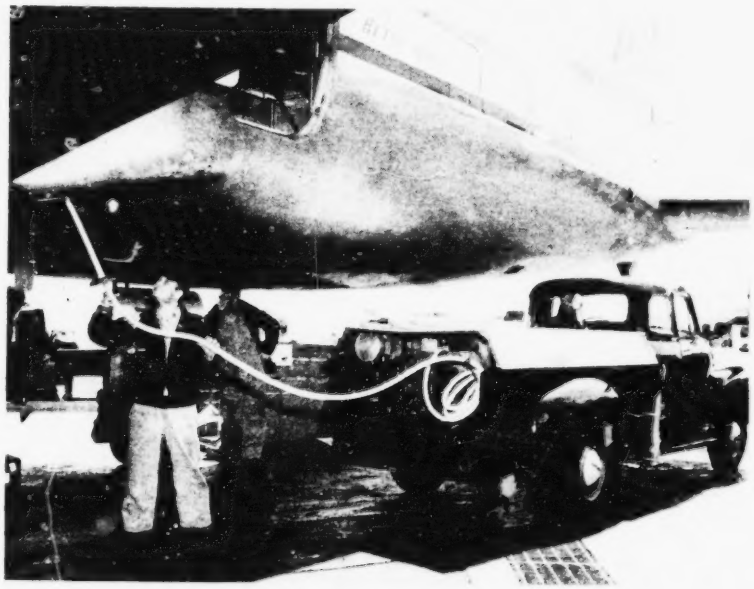
These tanks should be constructed of smooth, heavy-gauge, corrosion-resistant material, and should be completely enclosed from filling inlet to discharge outlet, except that vent openings are permitted whenever necessary, if protected to prevent contamination of the water.

The tanks should be so designed that they can be steamed and flushed, and should be provided with a drain that permits complete drainage of the tank. They should be labeled DRINKING WATER ONLY.

The inlet and outlet to the tank should terminate in a downward direction or gooseneck, and should be provided with caps or closures with keeper chains for protection against contamination. The inlet and outlet should be equipped with couplings of a type which permits quick, easy attachment and removal of the hose. Threaded fittings on inlets and outlets to water tanks will be acceptable only with hoses which are permanently attached.

When hoses are transported on the water cart, storage facilities should be provided on the cart to protect the hoses from contamination.

Transferral of water to the water-storage facilities on the aircraft should be accomplished so as to prevent contamination.



Aircraft water system being filled.

HANDLING AND DISPOSAL OF WASTES FROM AIRCRAFT

No excrement should be discharged or removed from any aircraft, except at airports which have adequate soil-waste servicing facilities.

1. Aircraft Toilet Facilities.—Toilet facilities on the aircraft should be so designed as to prevent accumulation of fecal matter on the sides of the bowl. All interior corners in the facility should be rounded with not less than ¼-inch radius, and all seams and joints should be smooth. Soil cans or retention tanks should be of sufficient capacity to retain all waste discharge in a sanitary manner.

(a) When toilet wastes are retained in removable soil cans, provision should be made to fix the soil can in place under the toilet so as to prevent excrement from falling outside of the removable container.

(b) When toilet wastes are stored in retention tanks which are permanently installed on the aircraft, the discharge from the retention tank should be so designed that the contents of the tank cannot be discharged when the aircraft is in flight.

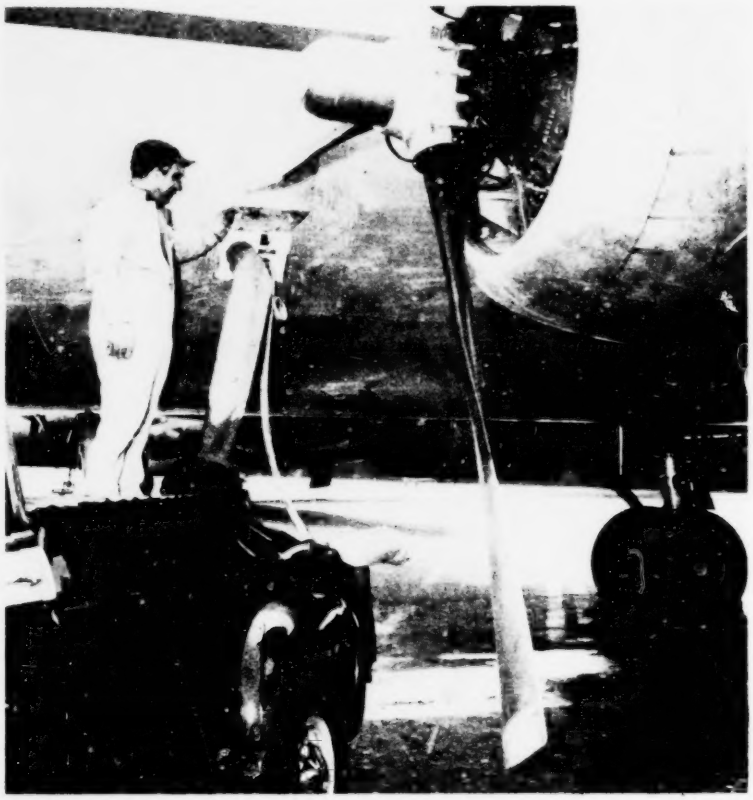
Discharge-control devices on the retention-tank outlet should be so designed as to prevent leakage and, when the tank is being discharged, to prevent spattering of the servicing area or servicing-area personnel.

Provision should be made for the retention tank and toilet hopper to be thoroughly flushed during the servicing operation.

Lavatory facilities should be permanent installations, and of durable, easily cleanable construction. Water inlets to each basin should terminate at least 1 inch above the flood level or the overflow rim of the fixture. Facilities should include an easily cleanable basin, a dispenser for soap (with an adequate supply of soap), a clean-towel dispenser (with towels), a soiled-towel receptacle, and piped warm (or hot and cold) water.

The floors or floor-covering in toilet and lavatory rooms should be of a nonporous, easily cleanable material. The joints between floors, walls, and equipment should be rounded or coved wherever possible.

2. Handling of Toilet Wastes.—Proper facilities should be provided for handling toilet wastes from aircraft. Facilities required will depend to a great extent, of course, on the type of toilet being serviced. Personnel engaged in the removal or disposal of wastes *should not be permitted to handle food or drinking water, or equipment used for placing them aboard the aircraft.*



Removing toilet wastes from aircraft. (Note large, flexible sleeve which can be extended over hose to prevent spattering from defective valves.)

(a) *Removable Soil Cans.*—When the soil can is removed from the aircraft, the contents should be enclosed or covered while being transported to the facilities for emptying and cleaning the cans.

(b) *Fixed Waste-Retention Tanks.*—When tanks are permanently installed on aircraft to retain toilet wastes, the following provisions should be made for handling the wastes:

(1) The sewage accumulated in the retention tank on the aircraft should be discharged, through a flexible hose with a watertight connection, either directly to a sewer or to a portable, watertight tank, in order to avoid contamination of the area.

Facilities should be available for flushing the retention tank. (Direct connections to the water-distribution system should never be used for this purpose.) Wastes resulting from the flush operation should be discharged to the sewer or receiving tank. After flushing,

cleaning, and deodorizing the toilet hopper and retention tank, some odor-destroying substance may be left in the retention tank, but a deodorant should not be used in lieu of proper cleaning.

(2) Conveyances for waste-receiving tanks, toilet-flushing water, or deodorants, should be maintained separately from drinking water and food-service equipment. All hose connections for servicing aircraft waste-disposal facilities should be of a different size or type than those used for supplying potable water to the aircraft. Tanks should be labeled clearly, and usage should be restricted accordingly.

3. Disposal of Toilet Wastes.—The following requirements apply to all ground facilities and operations for waste disposal and the cleaning of soil cans and soil-waste conveyor tanks.

In all future installations, ground facilities for disposing of wastes from soil cans or waste-conveyor tanks, or for the washing of such equipment, should be situated away from any food-service or drinking-water-servicing operation.

(a) Facilities for washing soil cans or waste-conveyor tanks should be located in an enclosed, flyproof room, and should be provided with smooth, impervious floors which are sloped to drain. The room should be kept clean and in good repair. Minimum facilities for cleaning soil cans should include:

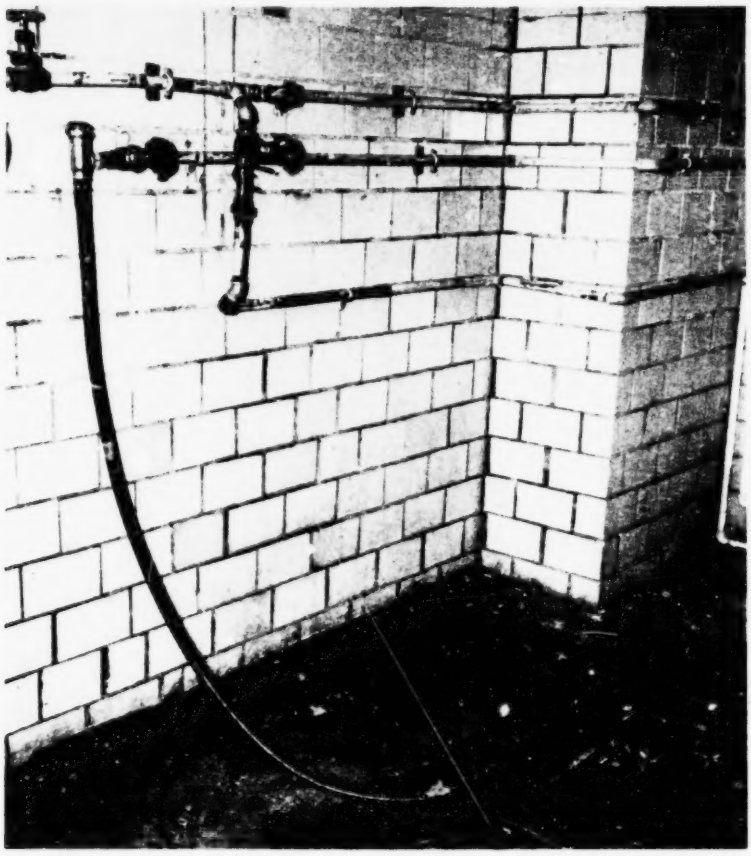
(1) A manhole or hopper, connected to a sanitary sewer or other approved waste-disposal facility, for the disposal of the contents.

(2) An impervious floor, graded to drain, surrounding the manhole or hopper. (Where the floor does not drain to the manhole, a separate floor drain should be provided.)

(3) Water under pressure and a hose with a nozzle, or other suitable washing facilities. The water-line pressure should be at least 20 pounds per square inch. Either hot water or steam should be available for removing contents adhering to the inside or outside of cans.

Facilities for washing soil cans and waste-conveyor tanks should be so designed as to prevent any possibility of backflow into the water-supply system. The water-supply lines to these facilities should be provided with suitable backflow preventers. The backflow preventers should be situated on the discharge side of the last control valve, at least 4 inches above the highest point which the top of the soil can or waste-conveyor tank will reach when in washing position. When a hopper-type washer is used, the backflow preventer should be at least 4 inches above the overflow rim of the hopper.

(b) Soil cans should be emptied, and should be washed inside and outside immediately after removal from the aircraft. When not in use, clean cans should be stored on a special rack or in a locker. Clean soil cans which are stored outside of the can-washing room should be kept in enclosed storage, separate from food-service or water-service equipment.



Sewage-disposal room. (Note disposal pit, and vacuum breaker on flushing-water supply line.)

4. Handling of Aircraft Refuse.—Multiservice liquid-waste receptacles which are used in aircraft galleys should be removed from the aircraft in a manner which will preclude spillage in the servicing areas. Contents of the receptacles should be emptied into storage containers provided for that purpose. Storage containers located in the servicing area or in the hangar area should be emptied, with the contents properly dispatched, frequently enough to prevent nuisance or unsightliness.

Refuse-storage and -collection containers should be covered at all times, except when contents are being transferred. The design, maintenance, and handling of refuse receptacles should comply with requirements set forth in section 12 of Catering-Point Sanitation, p. 11. The receptacles should

Flushing waste-conveyor cart in sewage-disposal room.

be cleaned and stored in a sanitary manner. Receptacles used in aircraft galleys should not be cleaned at soil-can cleaning installations, nor should they be stored in the same room with soil cans.

Used air-sickness containers and rubbish should be removed from the aircraft and disposed of in a sanitary manner. Used air-sickness containers should be handled with care. The contents may be emptied into a sewer or other facility approved by a competent health authority. The container may then be disposed of with other rubbish in the prescribed manner. Where adequate incineration facilities are available, it is recommended that used air-sickness containers be incinerated.

MISCELLANEOUS

1. Disposal of Refuse.—Refuse-disposal practices vary considerably throughout the country. Where municipal refuse-collection and disposal services are available, they will be considered adequate, provided that such collection is conducted in such a manner as to prevent nuisance or unsightliness in refuse-storage areas.

When refuse must be disposed of by the carrier, adequate disposal facilities should be provided. The use of properly operated incinerators or sanitary landfills is recommended. Plans for the construction of such facilities, showing the proposed location, should be submitted to the Public Health Service, as set forth in the section on Construction Plans.

2. Sanitation Facilities for Employees.—Toilets, locker rooms, and washrooms for servicing-area personnel should be provided at convenient locations. Such facilities should be kept clean and in good repair. Toilet paper should be available in suitable dispensers. Handwashing facilities should be located in or adjacent to toilet rooms, and should include an easily cleanable basin, a dispenser with an adequate supply of soap, a clean-towel dispenser with towels, a soiled-towel receptacle, and piped warm (or hot and cold) water. A warm-air jet, in lieu of towels, will be considered satisfactory, if properly installed and operated so as to assure prompt and adequate hand-drying. Signs instructing employees to wash their hands before resuming work should be posted in toilet rooms. Toilets on aircraft should not be used by servicing personnel while the aircraft is in a servicing area.

Drinking water, if provided for servicing-area personnel, should be of safe quality and should be dispensed in a sanitary manner. Cups, glasses, or other drinking utensils which may be used by more than one person should not be provided.

Drinking fountains, when provided, should be of satisfactory design and type. The nozzle of the fountain should be of non-oxidizing material, and should be set at an angle to prevent water in the jet from falling back into the orifice. The nozzle orifice, and all other openings into the fountain's water supply, should be located sufficiently above the overflow rim of the fountain bowl so that such orifice or openings cannot become submerged if the drain from the fountain bowl should become clogged.

Photographs through the courtesy of the American Airlines, Inc., Pan American Airways System Sky Chefs, Inc., and Allied Aviation Services, Inc.

PHS-2068 6-53
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

REPORT ON AIRLINE CATERING POINT SANITATION

CITY	STATE	INSPECTION DATE

CATERER	ADDRESS
MANAGER	PERSON CONTACTED *(Name and Title)*

CLASSIFICATION RECOMMENDED *(Check one)*

☐ Approved ☐ Provisional *(Expiration date* _____ *)* ☐ Prohibited

REPORT PREPARED BY *(Signature)*	TITLE AND AGENCY

SUPPLY SOURCES
WATER: _____ MILK & MILK PRODUCTS: _____
SHELLFISH: _____ FROZEN DESSERTS: _____

Defects are indicated by a cross (X)

1. FLOORS		**10a. CLEANING OF EQUIPMENT AND UTENSILS**	
Easily cleanable, smooth, good repair		Clean food carts, shelves, tables, cutting boards, meat blocks, refrigerators, tray racks, sinks, dishwashing machines, etc.	
Graded to drain, if floor drains used		Utensils thoroughly cleaned after each use	
Clean		Beverage containers thoroughly cleaned after each use	
Dustless method of cleaning		Suitable detergent, effective concentration	
Cleaned when least amount of food exposed		Wash water reasonably clean	
2. WALLS AND CEILINGS		Clean cloths used by employees	
Light color, good repair		Single-service cups, plates, spoons, straws, etc., used only once	
Walls smooth, washable to level of splash		No steel wool	
Walls, ceilings, ventilating equipment and windows clean		No cyanide or other poisonous compound	
3. DOORS AND WINDOWS		**10b. MANUAL BACTERICIDAL TREATMENT**	
Effectively screened, or fly-repellent fans, or flies absent		Utensils immersed 2 minutes in 170° F. water, or 30 seconds in boiling water, or (after rinsing) 2 minutes in 50 p.p.m. available chlorine solution, or other approved method	
Outward-opening, self-closing doors			
4. LIGHTING			
10 foot-candles, at least, on working surfaces		Large utensils treated with live steam, boiling-water rinse, or 100 p.p.m. available chlorine solution	
5 foot-candles, at least, in storage rooms			
Fixtures clean, in good repair		Adequate dishwashing facilities provided	
5. VENTILATION		Thermometers, wire baskets, as required	
All rooms, except cold storage, reasonably free of odors and condensation		Drying cloths, if used, clean and used for no other purpose	
6. TOILET FACILITIES		**10c. DISHWASHING MACHINES**	
Adequate, conveniently located		Satisfactory machine, spray arms demountable or accessible for cleaning	
Well lighted, outside ventilation			
Clean, good repair, no flies		Properly operated	
Self-closing, tight-fitting doors		Suitable detergent, effective concentration	
No direct opening		Wash water in range of 140° F.	
Handwashing sign for employees		Bactericidal rinse 170° F. or above	
7. WATER SUPPLY		Thermometer for rinse water	
Safe, complies with PHS Standards		**11. STORAGE AND HANDLING OF EQUIPMENT AND UTENSILS**	
Readily accessible, adequate, under pressure		Suitable storage area, above floor, protected from flies, dust, dirt, splash, etc.	
Plumbing satisfactory			
8. HANDWASHING FACILITIES		Area clean, and utensils inverted or covered, when practicable	
Adequate, conveniently located		Beverage containers stored properly	
Hot and cold running water		Spigots properly handled and protected	
Soap, individual towels (or properly installed and operated warm-air jet) provided		No handling of contact surfaces	
		Non-porous shelf and drawer linings	
Facilities clean, in good repair		Single-service utensils purchased in sanitary cartons, stored and handled properly	
Hands washed after toilet			
9. CONSTRUCTION OF EQUIPMENT AND UTENSILS		Suitable facilities provided for storage of frozen-dessert dispensing spoons, dippers, etc.	
Easily cleanable, self-draining, smooth, suitable material			
Good repair; no open seams, corrosion, breaks, cracks, or chipped places		Dispensers kept therein in 170° F. or running water, or cleaned and stored dry	
No cadmium or lead in utensils			

For detailed explanation of itemized requirements, see HANDBOOK ON SANITATION OF AIRLINES.

12. DISPOSAL OF WASTES	
Garbage disposed of through grinders, or adequate storage facilities provided	
Storage area drained, impervious, clean	
Covered, durable, watertight, ratproof containers	
Removed from storage area frequently and containers washed	
Adequate water pressure for cleaning cans	
Hot water and steam available	
Suitable backflow preventer, properly installed	
Liquid wastes into public sewer, or other approved disposal method	
Drains from food and drink equipment not directly connected to sewer	

13. REFRIGERATION	
Readily perishable food or drink stored at 50° F. or less	
Refrigerators (except freezer units) have thermometers in warmest zone	
Perishable foods packed for in-flight service stored at or below 50° F. or above 140°F. (unless 2 hours immediately prior to service)	
Ice from approved sources	
Adequate facilities for washing ice, as required	
Ice stored in approved manner and washed prior to use, as required	

14. WHOLESOMENESS OF FOOD AND DRINK	
Wholesome, clean, no spoilage	
Prepared so as to be safe for human consumption	
Pork and pork products cooked thoroughly	
Milk, milk products, frozen desserts, and shellfish from approved sources	
Milk supplied in individual containers	
Shellfish stored in original containers	
Portions of food once served not re-served in any form	
Satisfactory pre-cooling of beverage containers	

15. PROTECTION OF FOOD	
Stored above floor, not subject to flooding	
Not subject to overhead leakage	
Food or drink containers covered, except when preparing or serving	
Minimum manual contact with food or drink	
No animals or fowls	
Building ratproofed	
Flies, rodents, roaches under control	
No poisonous insecticides or rodenticides, unless properly colored and properly used	

16. CLEANLINESS OF EMPLOYEES	
Clean outer garments, used only for food-service duties	
Hands clean	
No spitting, no tobacco used in food-preparation or food-packing areas	
"No Smoking" signs	

17. MISCELLANEOUS	
Soiled linens, coats, aprons kept in containers	
Establishment not used for domestic purposes	
Employees' clothing not stored openly in food areas	

18. DISEASE CONTROL	
Inquiry reveals no employee with recent history of communicable disease or gastro-intestinal infection	
Observation reveals no open lesions or evidence of infection	

19. TRANSPORTATION OF FOOD TO AIRCRAFT	
Vehicles clean	
Protective cover when necessary	
Vehicles not used for purposes which could adversely affect quality of food	

REMARKS:

PHS-2069 6-53
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

REPORT ON AIRLINE SERVICING AREA SANITATION (Exclusive of catering)

AIRPORT	LOCATION
AIRLINE SERVED	INSPECTION DATE
PERSON CONTACTED *(Name and Title)*	SOURCE OF WATER SUPPLY
CLASSIFICATION RECOMMENDED *(Check one)* ☐ Approved ☐ Provisional *(Expiration date _____)* ☐ Prohibited	
REPORT PREPARED BY *(Signature)*	TITLE AND AGENCY

Defects are indicated by a cross (X)

WATER PIPING SYSTEM		**HANDLING OF TOILET WASTES (Cont.)**	
No cross connections		Waste tanks and flushing tanks labeled	
No backflow connections		Sewage removed without spillage	
Adequate pressure		Sewage tank flushing equipment available (not by direct connection to water supply)	
HYDRANTS		**DISPOSAL OF TOILET WASTES**	
Location satisfactory		Disposal facilities removed from food- or drink-servicing areas	
Acceptable type, good maintenance		Sewage disposal satisfactory	
Acceptable uses only		Can- or tank-cleaning facilities completely enclosed, flyproof	
Quick-type coupling (or threaded for permanent hose connection)		Smooth, impervious floors, sloped to drain	
Outlets downward or horizontal		Room clean, good repair	
Proper surface drainage		Adequate water pressure	
Drains from hydrant boxes or pits adequate to prevent flooding		Hot water or steam available	
WATER HOSE		Suitable backflow preventer, properly installed	
Satisfactory material, smooth, no cracks or checking		Soil cans emptied and cleaned immediately after removal from aircraft	
Quick-type couplings, where required		Carts emptied and flushed frequently	
Satisfactory nozzle guard		Satisfactory storage of clean soil cans	
Hose properly protected and stored		**HANDLING OF AIRCRAFT REFUSE**	
Hose handled properly, flushed before use		Refuse handled properly, no spillage	
Nozzles different size or shape from waste connections		Storage containers satisfactory, covered	
WATER TANKS OR TANK CARTS		Storage containers emptied frequently	
Smooth, heavy-gauge, corrosion-resistant material		Receptacles cleaned, not at soil-can cleaning installations	
Completely enclosed from filling inlet to discharge outlet		Receptacles stored properly, not with soil cans	
Vents, if provided, properly protected		Air-sickness containers properly handled and disposed of	
Complete drainage possible		**DISPOSAL OF REFUSE**	
Inlet and outlet directed downward		Refuse disposal satisfactory	
Inlet and outlet provided with caps or closures with keeper chains		**SANITATION FACILITIES FOR EMPLOYEES**	
Water tanks labeled		Adequate, convenient toilets, locker rooms and washrooms	
Quick-type couplings, where required		Clean, good repair	
If hose transported on cart, proper storage facilities provided		Handwashing facilities with soap, towels, adequate water	
Proper transferral of water		Handwashing sign posted	
HANDLING OF TOILET WASTES		Drinking water, if provided, of safe quality and properly dispensed; no common cups	
Personnel who remove wastes do not handle water or food			
Soil cans enclosed or covered during transportation to disposal area			

REMARKS:

(Use reverse side of sheet if necessary)

For detailed explanation of itemized requirements, see HANDBOOK ON SANITATION OF AIRLINES.